



U.S. DEPARTMENT OF
ENERGY

Energy Efficiency &
Renewable Energy



Solar Energy Technologies Program

MARKET TRANSFORMATION

“Accelerating Solar on a National, State, and Local Level”

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Solar Energy Technologies Program (SETP)

Department of Energy

Office of Energy Efficiency and Renewable Energy

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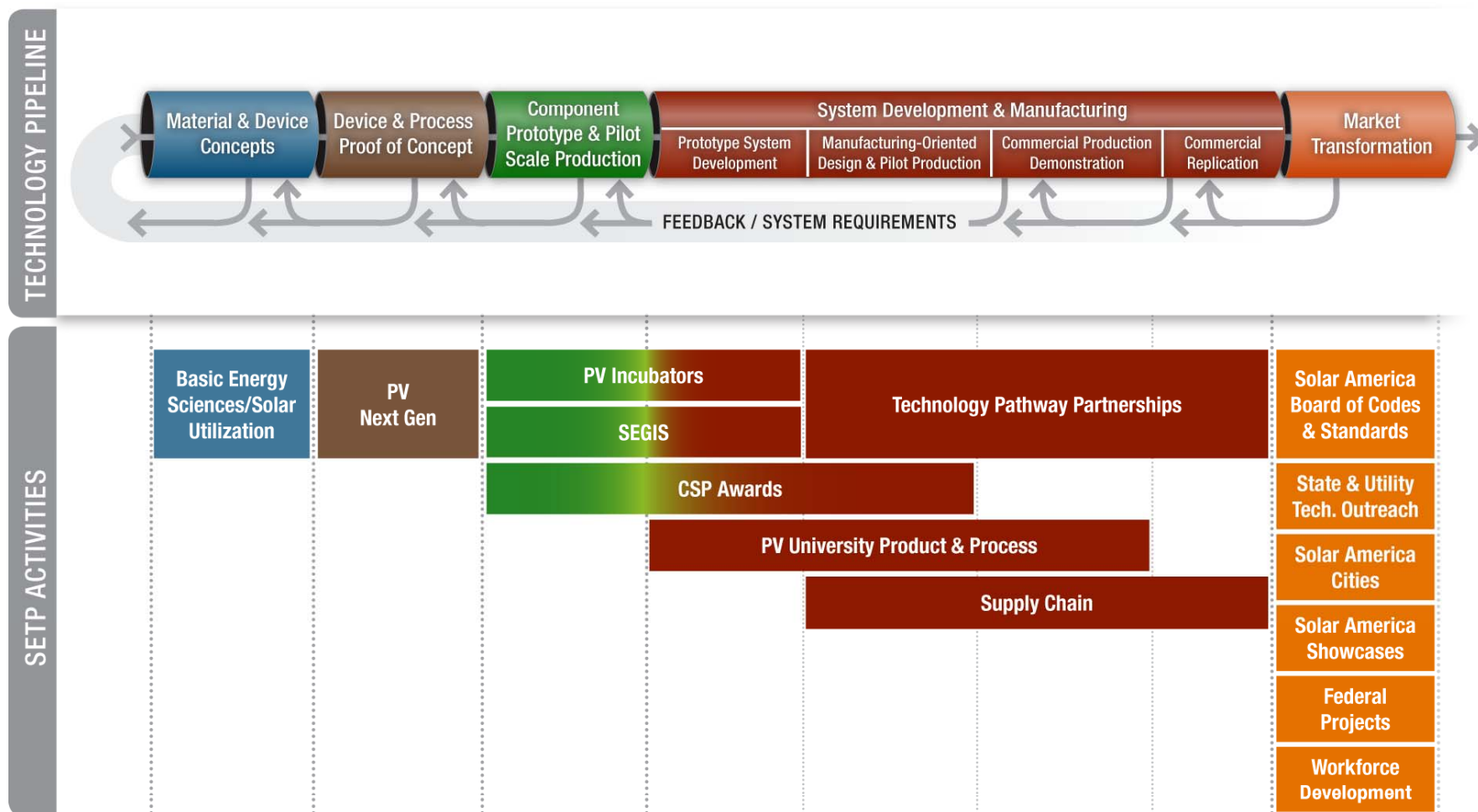
Mission and Structure

Barrier Identification

Current Activities

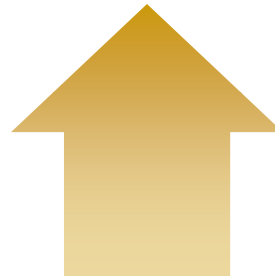
DOE's Solar Energy Technologies Program (SETP) works along the whole Research, Development, and Deployment pipeline

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Solar America Initiative (SAI) Mission

- Achieve cost-competitiveness for solar power



Market Transformation Mission

- Reduce market barriers to, and promote market expansion of, solar energy technologies through non-R&D activities.

Key Barriers to Solar Commercialization

- Lack of consumer awareness
- Inconsistent financial incentives
- Inexperience with proven financial approaches
- Complex permitting procedures
- Inadequate codes & standards
- Inconsistent interconnection rules
- Ineffective net-metering policies
- Inappropriate utility rate structures
- Limited solar experience in key building trades
- Shortage of trained technical personnel and installers

Market barriers increase the price of solar systems and the time before use.
Market transformation activities aim to reduce prices and time,
resulting in widespread deployment.

GOAL Reduce market barriers to, and promote market expansion of, solar energy technologies through non-R&D activities.

Activities

- Solar America Board for Codes and Standards
- State Technical Outreach
- Utility Technical Outreach
- Solar America Showcases
- Solar America Cities

Solar America Board for Codes and Standards (Solar ABCs)

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Performer: New Mexico State University (collaborative)

Activity Objectives:

- Improve the responsiveness, effectiveness, and efficiency of codes and standards for all markets (federal, state, local, utility).
- Codes and standards are the backbone of the success of SAI. Without consistent support for codes and standards development, solar cannot be deployed on a large-scale.



Potential FY 2009 Tasks:

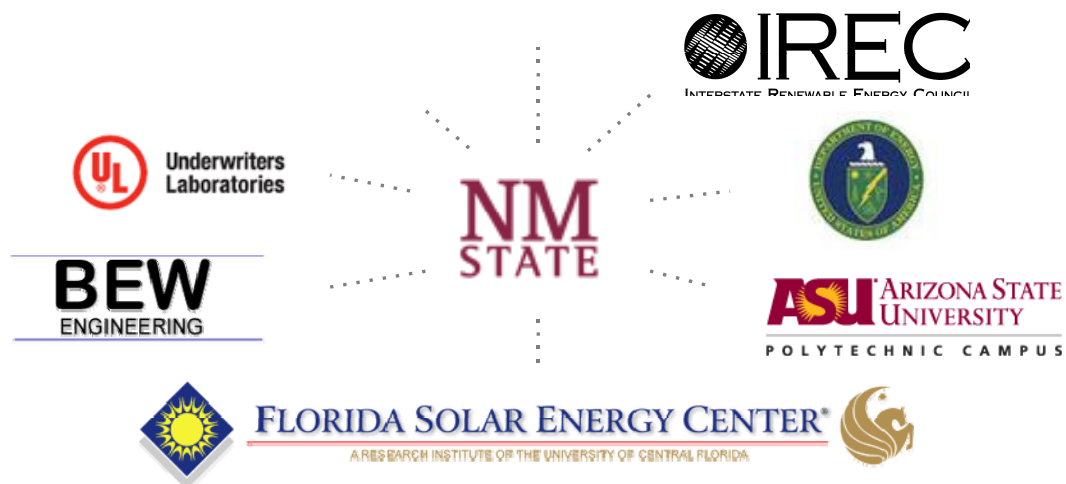
- Draft guidebook to CA Fire Marshall Guidelines for PV installations
- Develop a simplified PV performance rating system
- Develop procedures of accelerated life testing of PV modules
- Develop a permit application checklist for small, medium, and large systems

Solar America Board for Codes and Standards

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SHERWOOD ASSOCIATES



**Building and
Electrical Codes**
Article 690 Guidance

Product Safety
*Reconcile UL1703/IEC61730,
UL 1741/IEC32109*

**National Standards
Coordination**
Revise IEEE 1547

**Interconnection,
Net Metering**
Create Model Local Codes

**International Standards
Coordination**
*Monitor International
Codes and Standards;
Centralize U.S. participation*

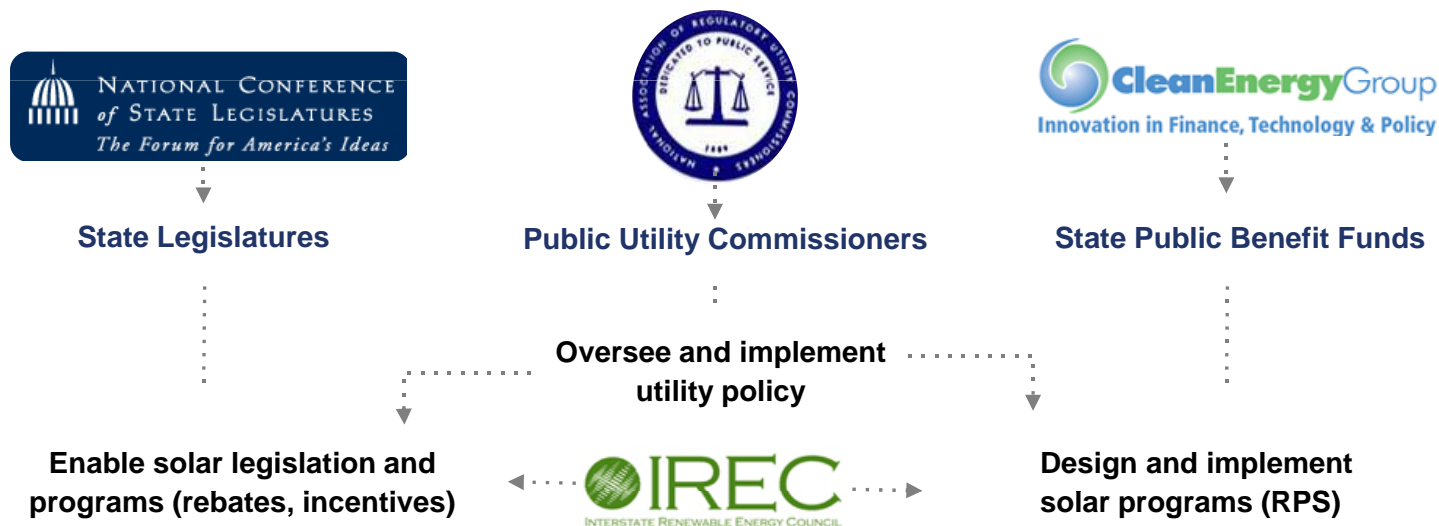
5-yr Award = \$4,200,000

State Technical Outreach

Performers: National Conference of State Legislatures (NCSL)
Clean Energy Group (CEG)
National Association of Regulatory Utility Commissioners (NARUC)
Interstate Renewable Energy Council (IREC)

Activity Objectives:

- Build relationships with State decision-makers responsible for enacting policies, programs, and plans that are key drivers for solar technology market transformation.
- Provide state policymakers with best practice and current data about solar technology, so they can make informed solar policy decisions.



3-yr and 5-yr Awards = \$7,000,000

Utility Technical Outreach

Performer: Solar Electric Power Association

Activity Objective:

- Deliver key technical and informational assistance to utilities to promote their acceptance and use of solar.



Develop new business
cases for solar

Provide current information
on solar technologies

Disseminate innovative
solar program design
information to utilities

3-yr Award = \$990,000

Solar America Showcases

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Activity Objective: Provide technical assistance to replicable, large-scale, high-visibility solar installation projects that showcase state-of-the-art solar technologies and applications.



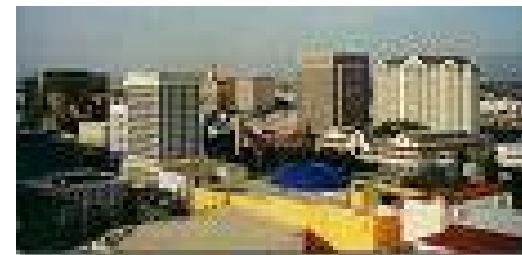
Washington, DC Public Schools



Forest City Military
Communities, HI



Orange County
Convention Center, FL



City of San Jose, CA



NE Denver Housing Center, CO



Mystic Seaport, CT



Mesa Del Sol, NM

Potential New Solar America Showcase Focus Areas



Solar America Showcases has been a successful activity so far; going forward we may focus the effort in order to target particular Solar Program goals or needs:

System Size

- Increase the minimum size of the systems from 100kW to 1 MW
- Larger system size requirements could result in higher-visibility projects
- Larger systems create greater “demand pull” for novel applications

Geography

- Stimulate certain areas of the Nation with burgeoning solar markets

Application

- PV systems used in new applications such as within microgrids or zero energy homes

Technology

- Accelerate a type of PV (thin-film, concentrators), CSP or SWH.

GOAL Accelerate solar adoption in the nation's electricity load centers by supporting cities' innovative efforts.



Solar America Cities contribute to DOE's goal of making PV cost-competitive with conventional grid electricity by 2015.

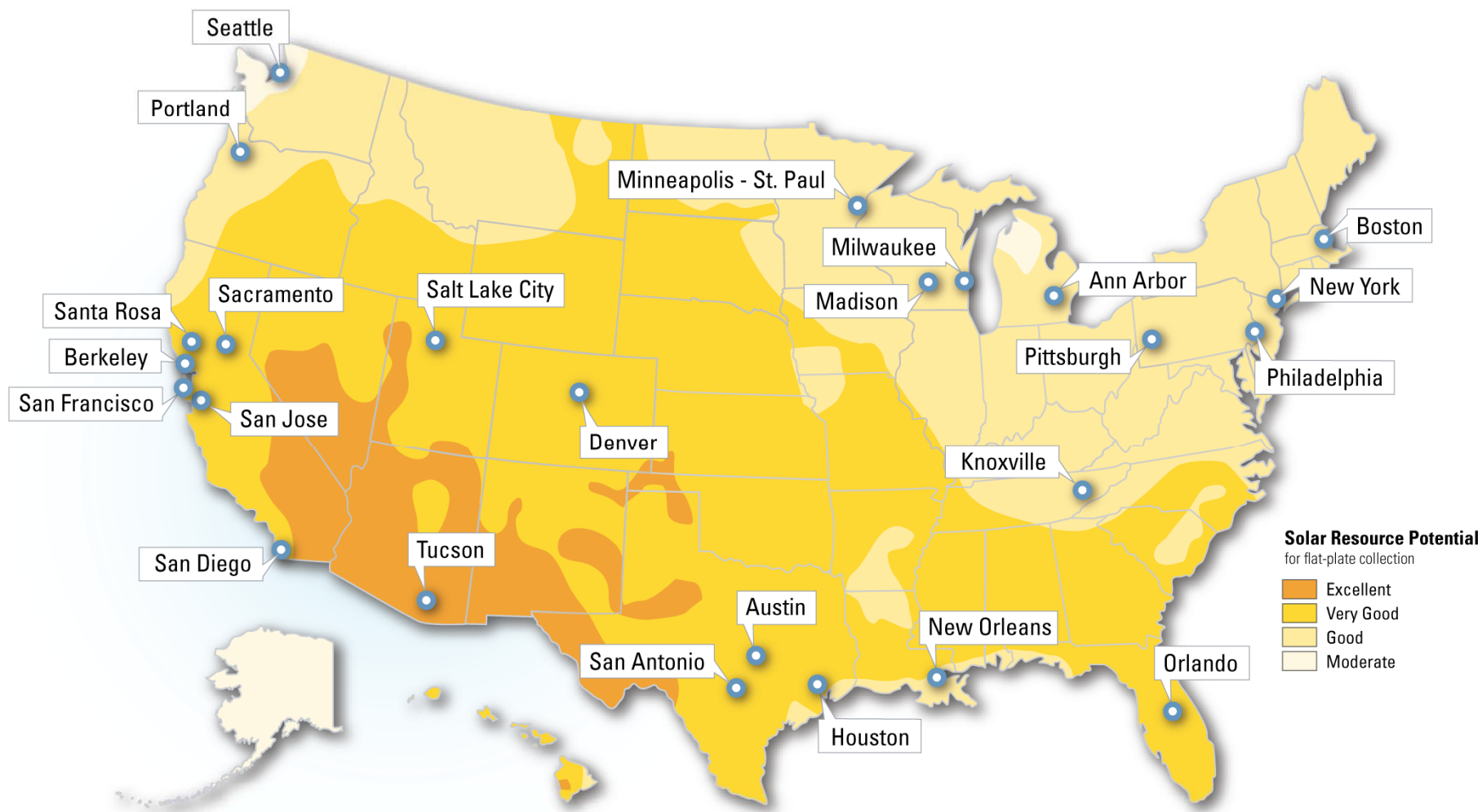
SELECTION PROCESS

Competitive awards granted to cities of 100,000 or more **committed** to:

- achieving a **sustainable solar infrastructure**
- through a **comprehensive, city-wide approach**
- that **facilitates mainstream adoption** of solar
- and **serves as a model** for other cities to follow.

The 25 Solar America Cities

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Solar America City Partnerships

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Financial Assistance:

~\$200,000 per city

Technical Assistance:

~\$250,000 per city

Multi-institutional “tiger teams” of solar experts provide tailored assistance based on city’s needs



Solar America City Projects

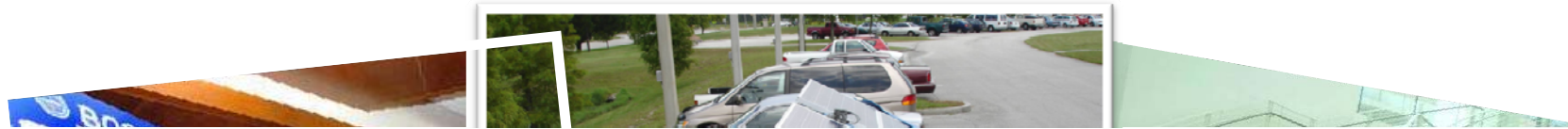
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- Streamlined permitting development
- Solar access laws
- Building/zoning code review
- Creative financing programs
- Code official/installer
- K-12 Education
- Solar Mapping
- Public outreach

■ Economic

What Makes Solar America Cities Unique?



- Federal/City partnership
- Financial assistance PLUS hands-on Technical Assistance to Cities
- Strong City and DOE network facilitates information sharing and replication potential.

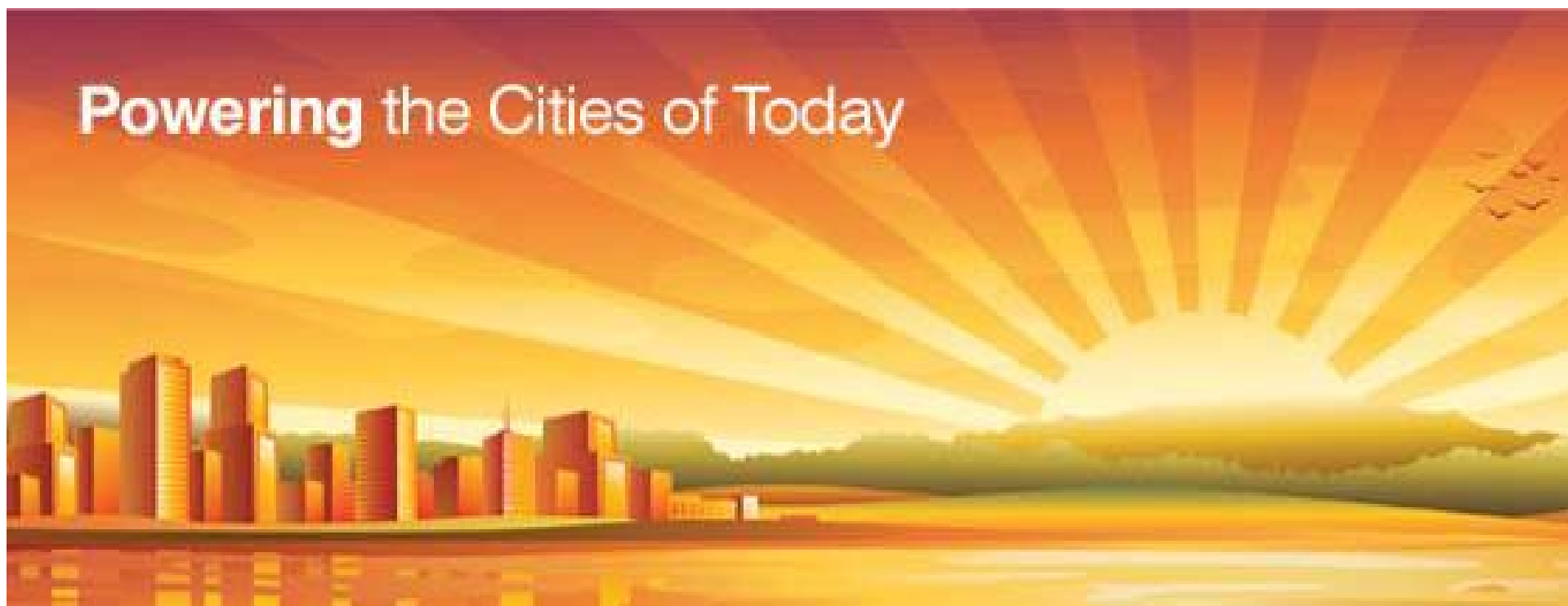
New Activities: Workforce Development

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PRE-DECISIONAL DEPENDENT ON APPROPRIATIONS

Visit us on the Web!



www.SolarAmericaCities.energy.gov

Thank You

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